

FULL FUNCTION VEHICLE HVAC/PTC THERMAL SYSTEM

ABSTRACT OF THE DISCLOSURE

The integrated automotive HVAC/PTC system of the present
5 invention includes a bi-fluidic heat exchanger between an air conditioning
subsystem and a heating subsystem which enables heat extracted during
dehumidification of the ventilation air to be transferred into dehumidified
ventilation air. The HVAC/PTC system includes reconfigurable coolant loops
and reconfigurable refrigerant loops, some of which act in concert and some of
10 which may be isolated. Power train components, including the power supply,
may be grouped by heat transfer requirements and may be cooled or heated as
needed. Power train cooling is accomplished with coolant in the heating
subsystem chilled by the air conditioning system.